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**REMARKS****Claims Rejection – 35 U.S.C. 112**

Claims 5 and 6 are rejected under 35 U.S.C. 112 for being indefinite when using the term “desired range”. The Applicant believes the term to be fully clear when considered in light of the specification. A person skilled in the art will understand that the “range” referred to in the claims means distance. Multiple references to distance are made throughout the specification.

**Claims Rejection – 35 U.S.C. §103**

Claims 1 – 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rairoux et al. (“Remote Sensing of the Atmosphere Using Ultrashort Laser Pulses”) in view of McGrew (US 2003-0123051). The Applicant respectfully traverses this rejection for the following reasons.

Rairoux et al. describe a technique which depends on the self-transformation of an original laser pulse into a white light laser pulse. Linear absorption of the back-scattered white light by pollutant molecules is then measured using LIDAR techniques.

The Examiner asserts that Rairoux et al. teach transmitting ultra-short laser pulses into the medium so as to generate filaments, and detecting said filament. Specifically, the Examiner points to page 574, paragraph 2 to support this assertion. However, this passage fails to teach transmitting the ultra-short laser pulses into the medium so as to generate filaments. In fact, the passage simply mentions the filaments to indicate that filament creation is a non-linear process that occurs when pulse intensity exceeds a given threshold and should therefore be considered. This passage is evidence that Rairoux et al. does not use this phenomenon in order to identify a molecule in a transparent medium. The Examiner also points to figure 2, which illustrates a spectrometer, to show that Rairoux et al. teach detecting the filament. Having the apparatus capable of

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detecting the filament is insufficient in demonstrating that the step of detecting an amplified spontaneous fluorescence signal is taught by the reference.

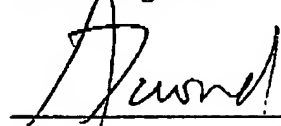
Therefore, the Applicant respectfully submits that Rairoux et al. fail to describe or suggest generating filaments in which a spontaneous fluorescence signal propagating along an axis of the filament is amplified by stimulated emission. In addition, Rairoux fails to teach or suggest detecting this amplified spontaneous fluorescence signal and analyzing the fluorescence signal to identify the molecule.

McGrew relates to methods and devices for detecting materials in a sample by separating a coherent radiation pulse directed onto the sample into a plurality of pulses of different polarization states, modulating the amplitude or phases of the plurality of separate pulses and coherently recombining the separate pulses into a composite pulse having component features selected by a genetic algorithm to distinguish the spectral responses of the materials in the sample.

McGrew fails to describe or suggest generating filaments in which a spontaneous fluorescence signal propagating along an axis of the filament is amplified by stimulated emission. McGrew also fails to teach or suggest detecting this amplified spontaneous fluorescence signal and analyzing the fluorescence signal to identify the molecule.

It is therefore believed that claims 1-10 are in condition for allowance and early and favourable response is earnestly solicited.

Respectfully submitted,  
See Leang Chin



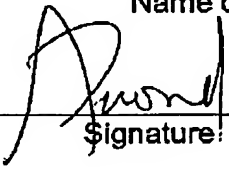
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